

DEMONSTRATING RETURN ON INVESTMENT FOR TELEHEALTH

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Founder and CEO, Telehealth Management

“Our job is to now enable the providers to measure outcomes and measure cost in real time: that’s the only thing that’s going to change healthcare.” – Dr. Patrick Soon-Shiong

Interview with Howard Krein, MD, StartUP Health, March 2016





Measure the ROI

Cost

Revenue

Outcomes

ROI FOR TELEMEDICINE



A needle in a haystack



Estimate ROI



Tied with Clinical Outcomes

OUR APPROACH

Prerequisites

1. Central governance model
2. Involve the Health System's leadership

Process

1. Collect **DATA**
2. **Analyze** the data **offline**
3. Develop **real time dashboard** and **reporting tools**

THE REALITY

1. **80 % of the World's data is unstructured data/ information.**
2. Data is in **multiple places** and mostly in **silos**
3. Data is **inconsistent**
4. Data is **complex** and **diverse**

RULE #1 : Collect **redundant** data

RULE #2 : **Dive deep** in the data

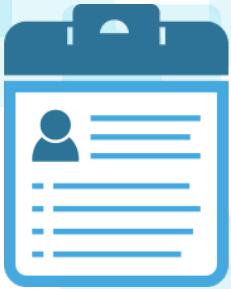
RULE #3 : Involve your **medical champion**

RULE #4 : **Transform** the data into **information**

RULE #5 : **Automate** the process

TELEHEALTH RESOURCE PROGRAM™

METHOD



EMR

- Epic
- Cerner
- ...



Telehealth Technologies

- Cisco
- Polycom
- ...



Financial System

- Hyperion
- Precision
- ...

TRP



Health System
IT department



HIPAA compliant
Secure

TELEHEALTH RESOURCE PROGRAM TM

Key Performance Indicators and Metrics

Financial

Cost

- operating budget
- assets

Revenue

- patient/insurance payment
- contract payments
- grants
- donations

Operational

- Patient mapping (location/service based)
- Project development (customer acquisition timing & budgeting)
- Contracts
- Equipment inventory
- Videoconferencing spaces

Clinical

Telestroke

- Number of services available/capacity
- Number of repeated procedures
- Time to diagnosis, time to initial treatment, length of stay
- Transfers, percent of patients admitted, number of referrals

TRP™ DASHBOARD



4,018 Miles Saved This Month

Alerts **461**

Admin Admin

Dashboard

Graphics

Analytics

Manage Database

Map

Administration

3
Emergency Consults!

[View details](#)

18
Completed Encounters!

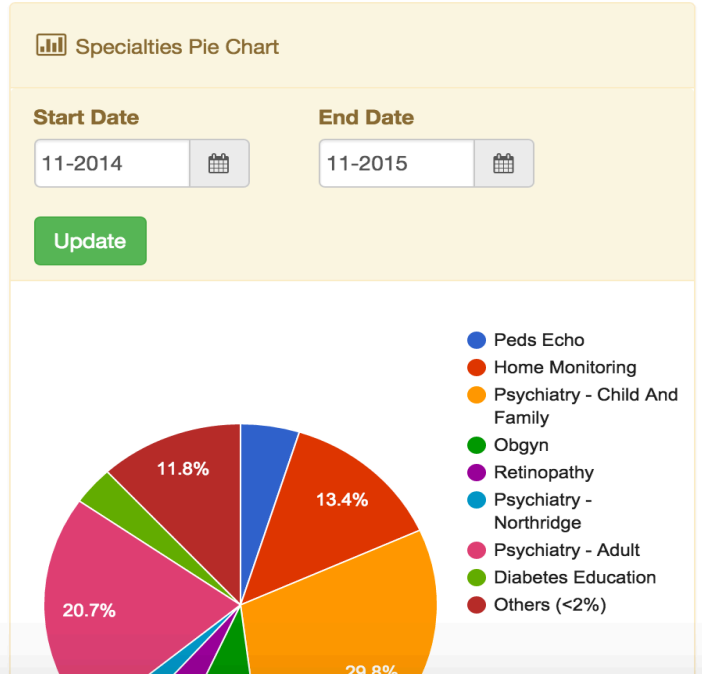
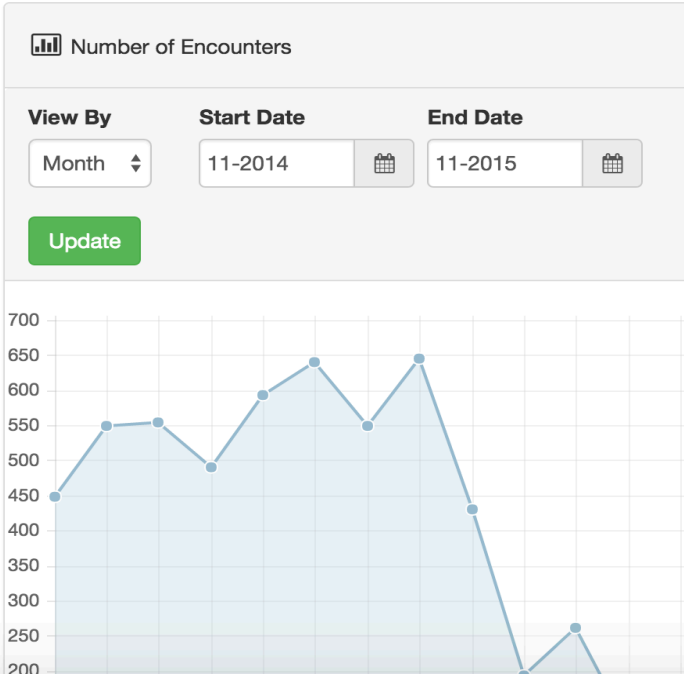
[View statistics](#)

1
Missed Encounters

[Fix Issues](#)

0
Incomplete Data Entry

[Complete](#)



TRP™ GRAPHICS

4,018 Miles Saved This Month
Alerts 461
Admin Admin

[Dashboard](#)
[Graphics](#)
[Analytics](#)
[Manage Database](#)
[Map](#)
[Administration](#)

[Encounters](#)
[Specialty](#)

Filter by Name
Start Date
End Date

Specialty	Encounters
Als	2
Cardiology	2
Childhood Obesity	1
Colposcopy	7
Dermatology	3
Developmental Disabilities	17
Fitness Clinic	4
Genetic Counseling	7
Hepatology	7

Encounter Analytics

View By
Model
Start Date
End Date

Number of Encounters

View By
Start Date
End Date

Total Progress of TMED Services

Selected

Total Progress of TMED Services, by Month

TRP™ REPORT GENERATION



4,018 Miles Saved This Month

Alerts **461**

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Manage Database

Map

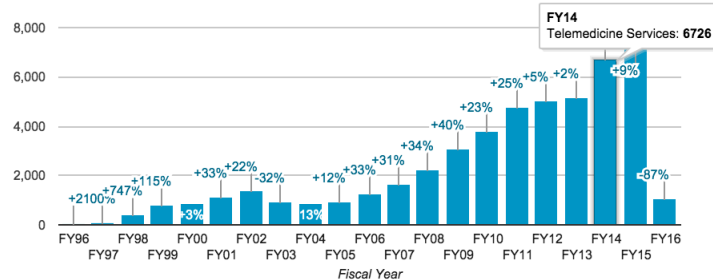
Administration

Report



This may take a few minutes, Please Wait...

Fiscal Year Annual Growth Comparison



Download Graphic


Download Data

◆	TMED Service ◆	% Change from previous FY ◆
FY96	2	-
FY97	44	+2100%
FY98	373	+747%
FY99	802	+115%
FY00	800	-0%

Contract Details



TRP™ TELEHEALTH COVERAGE MAP



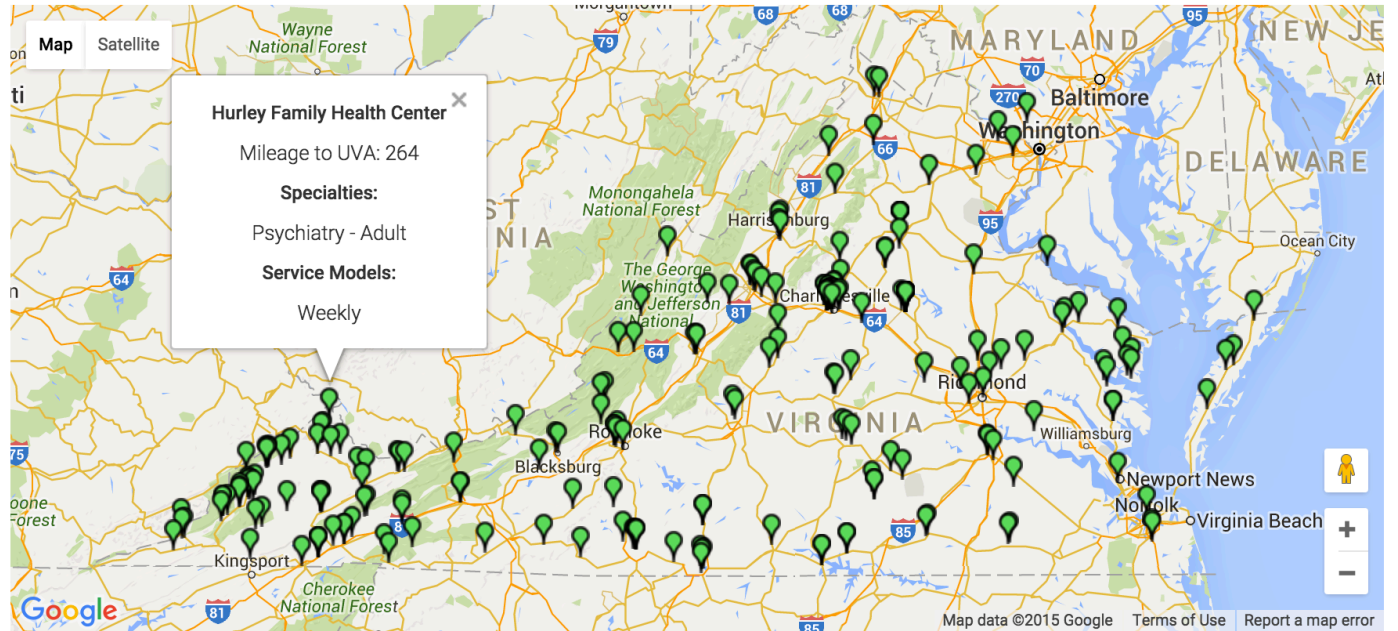
- Dashboard
- Graphics
- Analytics
- Manage Database
- Map**
- Administration

4,258 Miles Saved This Month

Alerts **461**

Admin Admin

Telehealth Coverage Map




Map Settings

Distance from UVA:

Sort by Specialty:

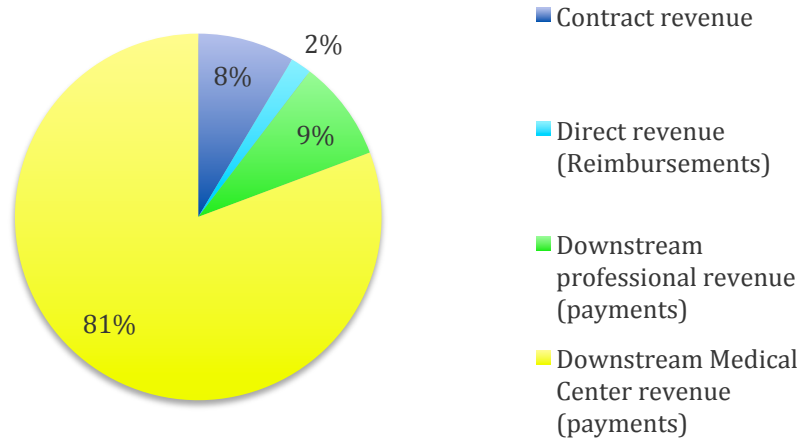
None selected ▾

Sort by Service Model:

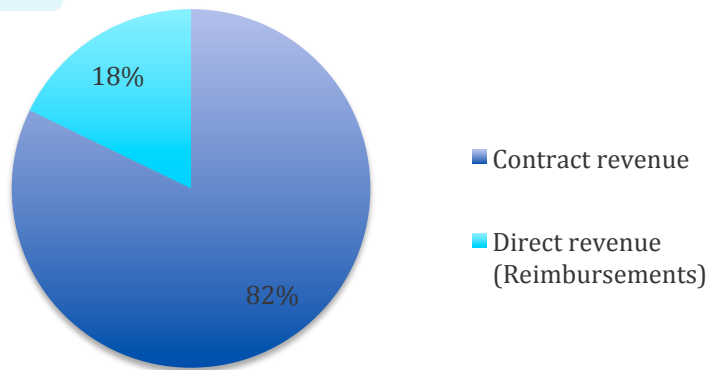
TELEMEDICINE ROI AND OUTCOMES

TELESTROKE REVENUE SOURCES

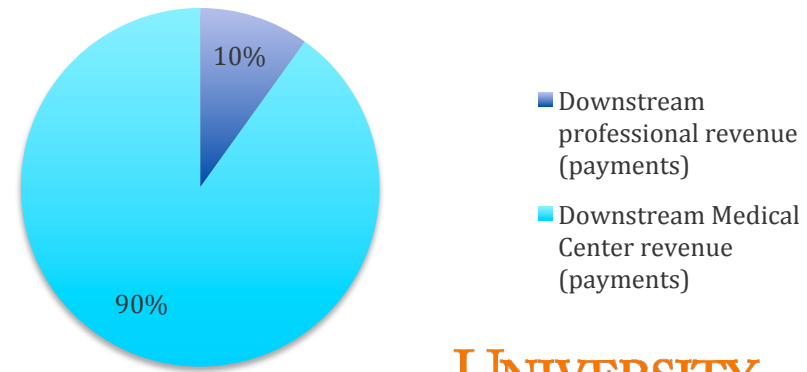
OVERALL REVENUE



DIRECT REVENUE




DOWNSTREAM REVENUE




TELESTROKE TRP DASHBOARD

TRP


- Dashboard
- Graphics
- Analytics
- Quality of Care
- Manage Database
- Map
- Administration






12,780 Miles Saved This Month | Alerts 758 | Admin Admin

TRP Telestroke Dashboard (Jan. 1, 2015 - Dec. 31, 2015)




165
Telestroke Consults
Source: Telestroke Messenger




38
TPA administered
Source: Telestroke Messenger


Efficiency Metrics




0:49:49
Average Time from initial call to TPA treatment
Source: Telestroke Messenger



1:56:03
Average Time from Onset to TPA treatment
Source: Telestroke Messenger



0:04:29
Average Time from initial call to return call
Source: Telestroke Messenger



0:10:11
Average TMED Response time from CallLogs
Source: CallLogs (TRP)

Tele Stroke Video Quality Metrics

Metric Description	Value	Percentage data	Confidence
Video Calls/Encounter	1.5	70%	60%
Average Packet loss	5%	100%	100%
Audio Jitter	4 ms	90%	85%

Tele Stroke Clinical Metrics

Metric Description	Value	Percentage data	Confidence
TPA administered	23.03%	100%	100%

TOWARDS EVIDENCE BASED QUALITY ASSURANCE FOR TELEHEALTH



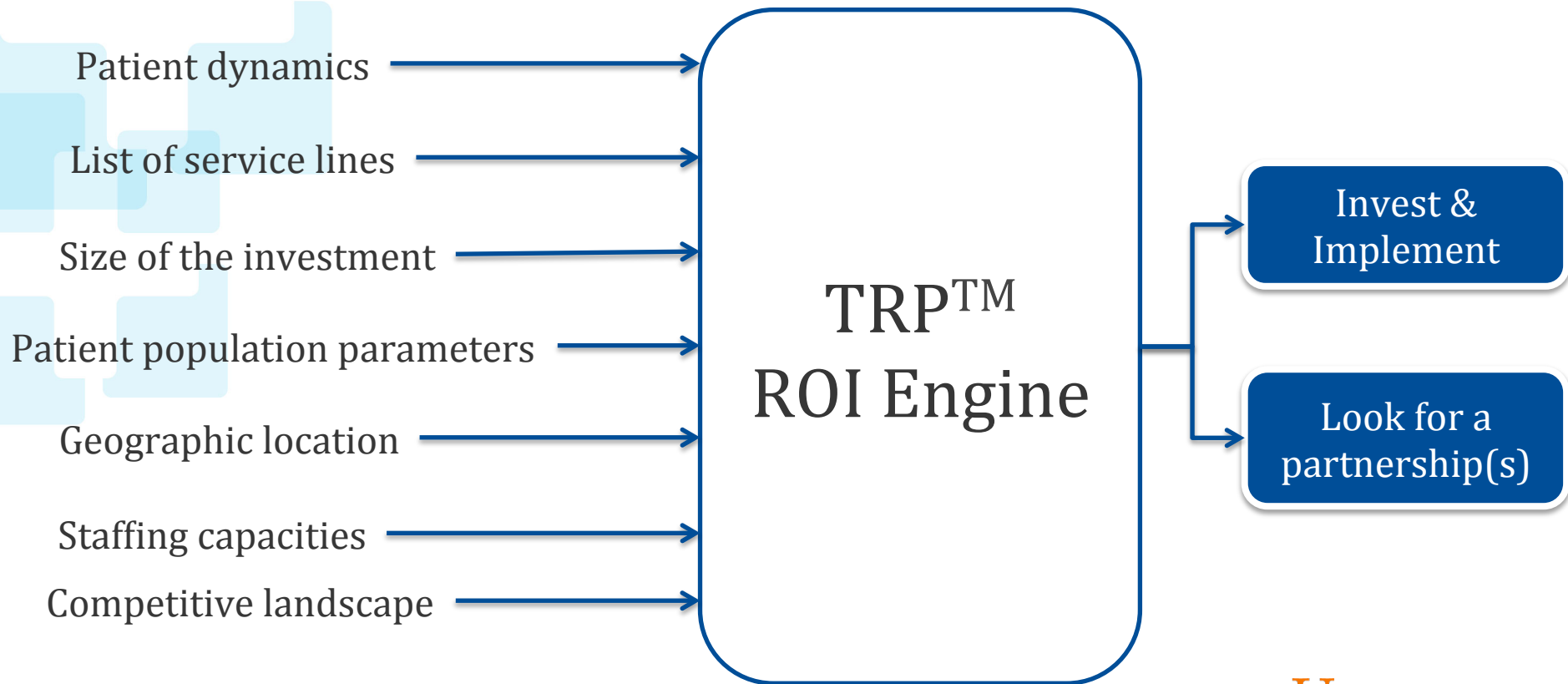
Quality of care

ROI driven business operations

Streamlined and standardized processes for care delivery

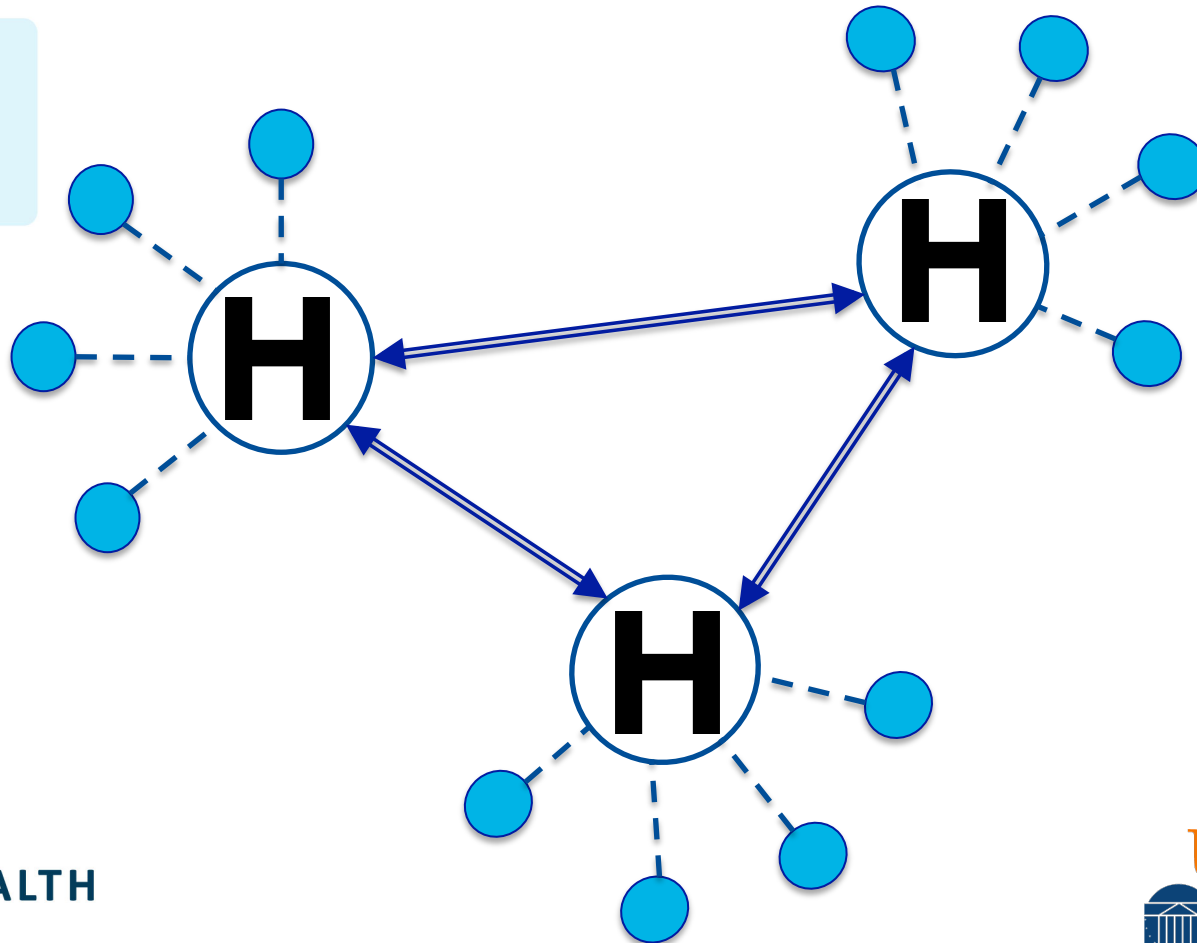
VISION

Create the “Bloomberg” for Telehealth



VISION

Create the Telehealth marketplace for Health Systems



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THANK YOU

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